No claims are being changed by this submission. A listing of the claims in compliance with 37 CFR §1.173(d) is as follows:

1. A method of ultrasonically detecting the ultrasonic response of an ultrasonic contrast agent comprising the steps of: transmitting a first ultrasonic pulse to said ultrasonic contrast agent to cause a first harmonic response;
transmitting a second ultrasonic pulse of a different polarity than said first ultrasonic pulse to said harmonic contrast agent to cause a second harmonic response;
detecting said first and second harmonic responses; and
combining said first and second harmonic responses.

2. The method of claim 1, wherein said step of combining comprises summing said first and second harmonic responses.

3. The method of claim 1, wherein said step of combining comprises integrating said first and second harmonic responses.

4. The method of claim 1, wherein said transmitting step comprises transmitting pulses which exhibit a pulse energy which is within a range which causes microbubbles of said ultrasonic contrast agent to oscillate without substantial microbubble destruction.

5. A method of ultrasonically detecting the nonlinear response of a substance within the body comprising the steps of:
transmitting at least three ultrasonic pulses into the body which exhibit first and second characteristics that cause a reduction in the linear echo response when echoes received

in response to such pulses are combined;

receiving echoes in response to said ultrasonic pulses; and

combining said echoes to produce a nonlinear response.

6.   The method of Claim 5, wherein said step of receiving echoes comprises receiving echoes from a given location in the body.

7.   The method of Claim 5, wherein said ultrasonic pulses are transmitted in a sequence in which said first and second characteristics are alternated from pulse to pulse.

8.   The method of Claim 5, wherein said step of combining comprises summing pairs of echoes.

9.   The method of Claim 5, wherein said ultrasonic pulses are transmitted in a sequence in which said first and second characteristics are alternated from pulse to pulse; and

wherein said step of combining comprises summing pairs of echoes from successive pulses.

10.   The method of Claim 5, wherein said first and second characteristics comprise first and second polarities.

11.   The method of Claim 10, wherein said transmitted ultrasonic pulses are of the form {p -p p ...}.

12.   The method of Claim 5, wherein said step of combining produces a sum result S which is substantially equal to $S = \sum_{j=1}^{n-1}\left(E_j + E_{j+1}\right)$, where E_j and E_{j+1} are pulse echoes.

13.   The method of Claim 12, wherein the number of ultrasonic pulses which is transmitted is three.

14. A method of ultrasonically detecting the nonlinear ultrasonic response of a medium inside the body comprising the steps of:

transmitting a first ultrasonic pulse to said medium to cause a first echo response;

transmitting a second ultrasonic pulse to said medium to cause a second echo response;

transmitting a third ultrasonic pulse to said medium to cause a third echo response which is substantially the same as said first echo response; and

combining said first, second and third echo responses to produce a nonlinear response.

15. The method of Claim 14, wherein said transmitted ultrasonic pulses are of the form {p -p p}.

16. The method of Claim 14, wherein said step of combining produces a sum result S which is substantially equal to $S = \sum_{j=1}^{n-1}(E_j + E_{j+1})$, where E_j and E_{j+1} are pulse echoes.

17. A method of ultrasonically detecting the nonlinear response of a substance within the body comprising the steps of:

transmitting at least three ultrasonic pulses into the body in a sequence which is of the form {p -p p -p ... -p p};

receiving echoes in response to said ultrasonic pulses which comprise a sequence of the form {E_1 E_2 E_3 E_4 ... E_{n-1} E_n}; and

accumulating said echoes to produce a nonlinear response.

18. The method of Claim 17, wherein said step of accumulating comprises accumulating pairs of consecutive echoes.

19. The method of Claim 17, wherein said step of accumulating produces a sum result S which is substantially equal to $S = \sum_{j=1}^{n-1}(E_j + E_{j+1})$, where E_j and E_{j+1} are pulse echoes.

20. A method of ultrasonically detecting the nonlinear response of a substance within the body comprising the steps of:
transmitting a sequence of at least three ultrasonic pulses into the body which exhibit a transmit characteristic which alternates from pulse to pulse;
receiving echoes in response to said ultrasonic pulses; and
combining said echoes to produce a nonlinear response.

21. The method of Claim 20, wherein said pulses are transmitted to a given location in the body; and
wherein said step of combining reduces the primary component of said echoes and produces a harmonic response.

22. The method of Claim 20, wherein said step of transmitting produces a sequence of echoes relating to a given location in the body in which the phase of the primary component of echoes produced by one transmit characteristic is out of phase with the phase of the primary component of echoes produced by the alternate transmit characteristic.

23. The method of Claim 22, wherein said step of combining reduces the primary component of the combined echoes and produces a harmonic response.

24. The method of Claim 23, wherein said transmit characteristic is a polarity differential from pulse to pulse.

25. The method of Claim 23, wherein said transmit characteristic is a phase differential from pulse to pulse.